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DUKE W. YEE P.O. BOX 802333 YEE & ASSOCIATES, P.C. DALLAS, TX 75380			VU, TUAN A	
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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/053,045

Applicant(s)

HELLMAN ET AL.

Examiner

Tuan A. Vu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-69, 135 and 136 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-69, 135 and 136 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

1. This action is responsive to the Applicant's response filed 6/30/2006.

As indicated in Applicant's response, claims 1, 8, 12, 14, 28, 30, 34, 44, 48, 63, 67, and 135 have been amended. Claims 1-69, 135-136 are pending in the office action.

***Claim Objections***

2. Claims 1, 34, and 135 are objected to because of the following informalities: the use of the term 'adapted to transform' ( cl. 1, lines 10, 12; cl. 34, line 13; cl. 135, li. 10-11) should be corrected to map the teachings from the specifications. According to which, the derived graphical information ( Fig. 9-11) resulting from mapping of data to a database are used by the interface and the XSL support tool to generate target XML files. The level accomplishment by any entity being 'adapted to transform' is not disclosed sufficiently in the Specifications because for this to be visible a clear definition of any adaptation ('adapted to transform') should be explicit. There is difference between a feature being adapted to and being actually used or performing; thus, the claim does not lay out a clear meaning as to whether a transformation is taken place when 'adapted to' is not teaching an achieved execution by an action. Further, the above claim language needs to avoid reciting hard-to-understand limitation. That is, the claim as of now amount to reciting that a *derived transformation* would be purported for transforming a first data into a second data, which seems obscure as to why a transformation can in turn become the active entity transforming something else. The above terminology should be corrected lest its interpretation would lead onto the deficiency of the non-statutory type subject matter.

Claims 1, 34, and 135 are objected to because of the language reciting: 'deriving using the ontology model... a transformation for transforming' in conjunction with 'to transform ...

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without transforming the first data via an ontological format'. There is no clear definition of the phrase 'via an ontological format' in light of the ontology-oriented transformation/mapping process as disclosed in the Specifications (e.g. pg. 14-16). That is, according to which, the RDBS structures are extracted into basic elements displayed as chart or table reflecting the database row/columns elements and the transformation from source data into target data is based on such mapping as extracted to enable creation of a form of model in terms of OO class or objects from which to apply further enhancement by the users (\*); whereby it is not reasonably conveyed that a format such as a ontological representation is not present during the transformation process. From the claim, the transformation of the first data is construed as being implemented not 'via' an ontology format. When there is no clear explicit definition in the disclosure as to what this 'without transforming ... via an ontological format', this *ontological format* negative limitation would be unclear as to whether it entails a format of transformed data intermediate to the final result or merely any graphical format used during the realization of the derived data, an example of which being the representation of OO classes and attributes based on mapping results, in which case the OO class are considered a graphical format pertaining to a model or some high-level of abstraction, i.e. an ontology format. But reciting 'using the ontology model' for transformation along with this transformation being not done using such ontology format would rather be hard to construe in light of the analysis in (\*) and of the OO class high-level representation (otherwise perceived as ontological view). Absent a definition of a transformation using --or not using -- an ontology format, the disclosure lacks sufficient, deliberate and clear teaching as to how this non-use of ontological format has been implemented. The language of the 'without transforming via ... format' should be readjusted to also obviate a

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112 type of rejection, mostly because *ontology* signifies a study using high-level representation of interacting elements, and the Specifications does teach a combination of OO classes format that represent a model ( see Fig. 1) which reasonably contradicts with the above claimed ontological format non-use limitation.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1, 34, and 135 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The reciting of ‘without transforming via an ontological format’ is not conveyed clearly in the disclosure or the claim to convey to one skill in the art how transformation is done such that it necessarily obviate the stage using a ontological format. From the Specifications, ontological structure is one model where relationship among elements are visible; and in view of the analysis from above in the claim Objections, the derived class objects depicted in the user graphical for the user to further modify the model does read on a format that is ontological, and based on the Specifications from Fig.1, this model enable transformation in the last step. It is therefore unclear as to how transformation of the source data into some form can be achieved when it is required that there is no ontological format involved in this transformation. One skill in the art would not be able to construe the claimed invention based on what appears to be incompatible teachings from claim interpretation and the very facts from the disclosure; and this

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has been mentioned in the above Claim Objection, so that as a whole the claims ( 1, 34, 135 ) would make it hard for one skill in the art to make use of the invention.

Claims 2-68, and 136 are also rejected from not remedying to the lack of definiteness of the base claims.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-8, 20, 24, 26-41, and 135-136 are rejected under 35 U.S.C. 102(e) as being anticipated by Wachtel, USPN: 6,847,947 (hereinafter Wachtel).

As per claim 1, Wachtel discloses a method for deriving transformations for transforming data from one data schema to another, comprising:

receiving a source data schema (e.g. Fig. 14) and a target data schema (e.g. Fig. 17 – Note: receiving a XML message in order to process it again reads on receiving a target schema – see col. 15, lines 1-29), the source data being different from the target data ( Note: samples of schemas in Fig. 14, 17 depicts distinct forms of XML);

mapping the source data schema into an ontology model; mapping the target data schema into the ontology model (e.g. Fig. 6-9; *xml, workflow, map* – col. 5, line 62 to col. 7, line 14 -

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Note: XML information/metadata when parsed by XPATH into a tree reads on a schema of definition); and

deriving a transformation ( e.g. Fig. 8-9, col. 12, line 51 to col. 13, line 26 – Note: *Intelligent data assimilation system* reads on automatic derivation) for transforming data conforming to the source data schema into data conforming to the target data schema (e.g. Fig. 4-5; Fig. 6-9; Fig. 17-18 – Note: derivation of class in a workflow – see Fig. 4-5 --view reads on derived transformation used for further transformation; and output response based on mapping against ontology metastore based on service and output requests – Fig. 14, 17 -- reads on source data schema in request conforming to target schema), using the ontology model;

wherein the transformation transforms data conforming to source schema directly to data conforming target schema ( Note: using abstracted concepts stored in the model and invoking one or more pre-stored templates to instantiate a workflow – see col. 5, line 46 to col. 7, line 14 - - to include intelligence enabling the transforming into a target schema reads on data schema from the request --i.e. source schema -- directly converted into output schema without any intermediate data schema format; Fig. 10, step 516, 518; Fig 6 and related text),

wherein the transformation is adapted to transform the first data into the second data without transforming the first data via ontological format (Note: providing mapping by Weblogic assimilation integrator – see col. 9 and Fig. 4-- to obtain atomic objects and derived objects grouping into a model (or ontological abstraction) or LSO-based workflow, enhancing this LSO collection with object oriented attributes – see Fig. 9 – so to generate XML form to fulfill a request – see col. 7, lines 4-14; col. 14, bottom -- **reads on** without transforming via any ontology format, i.e. using no intermediate format from the DBMS, from the atomic objects, no

intermediate format from the extracted basic/atomic units generated by the provider Weblogic mapping process – see col. 9).

**As per claim 2**, see ontology (col. 5, line 62→ col. 7, line 14).

**As per claim 3**, see ontology ( e.g. *runtime ...populated* - col. 7, lines 23-65; Fig. 4).

**As per claim 4**, see Wachtel for external format (e.g *xml document*– col. 7, lines 4-22) into internal format (e.g. *atomic semantic instances* - Fig. 4).

**As per claim 5**, see generating model instances (*runtime ...populated* - col. 7, lines 23-65; Fig. 4)

**As per claim 6**, Wachtel discloses initial model ( e.g. *data fields* – col. 9, lines 40-44; col. 13, lines 1-26) being populated into runtime (ontology workflow model) with abstraction instances based on LSO mapping (Fig. 6-9; col. 14, line 60 to col. 15, line 41 )

**As per claim 7**, refer to claim 4.

**As per claim 8**, Wachtel discloses code for transforming data conforming to the source data schema into data conforming to the target data schema (e.g. Fig. 6-9; Fig. 17-18; col. 6, line 20 to col. 7, line 14 – Note: developers configuring workflows via dynamic manipulation with encapsulation of objects therein and underlying XSL code supporting the formatting of output response based on service – Fig. 14, 17 -- reads on generating executable code to support transformation source data schema in request conforming to target schema-- see: XSL - col. 25, lines 41-47).

**As per claim 20** Wachtel discloses that the source data schema is a source document schema describing source documents (e.g. Fig. 14), and wherein the target data schema is a



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target document schema describing target documents (e.g. Fig. 17-18 – Note: XML schema reads on describing target documents being defined by such schema).

**As per claim 24**, Wachtel discloses wherein the source document schema is a source XML schema describing source XML documents, wherein the target document schema is a target XML schema describing target XML documents, and wherein the source XML schema and the target XML schema each describes at least one XML complexType having at least one XML element or XML attribute (e.g. Fig. 14, 18 – Note: type as defined in a corresponding DTD having at least one XML element or XML attribute reads on complexType).

**As per claim 26**, Wachtel discloses XSLT script (col. 7, lines 10-14).

**As per claim 27**, Wachtel discloses that said mapping a source data schema and said mapping a target data schema each comprise: identifying at least one class in the ontology model corresponding to at least one XML complexType; and identifying at least one property or composition of properties in the ontology model corresponding to at least one XML element or XML attribute (*class* – col. 11, lines 45 to col. 12, line 19; Fig. 4-7 ).

**As per claim 28**, Wachtel discloses that automatically deriving further comprises expressing XML elements and XML attributes of the target XML schema in terms of XML elements and XML attributes of the source XML schema (e.g. Fig. 6-9; Fig. 17-18 – Note: output response based on mapping against ontology metastore based on service and output requests – Fig. 14, 17 -- reads on source data schema in request conforming to target schema, i.e. expressing elements required from source XML in terms of elements in the output XML ).

**As per claim 29** Wachtel discloses said expressing is performed recursively through XPath paths (Note: parsing a XML schema according to W3C standard requires a Xpath and a DOM tree traversal; hence the Xpath recursive traversal is disclosed).

**As per claim 30**, Wachtel discloses wherein at least one dependency exists among properties in the ontology model, and wherein said deriving further comprises translating the at least one dependency among properties in the ontology model as at least one dependency between target XML elements and source XML elements (e.g. Fig. 3, 4, 5, 7, 17).

**As per claim 31**, Wachtel discloses applying the XSLT script to at least one source XML document to generate at least one target XML document ( re claim 26).

**As per claims 32 and 33**, Wachtel discloses single (Fig. 1) or multiple databases (Fig. 8).

**As per claim 34**, Wachtel discloses a system for deriving transformations for transforming data from one data schema to another, comprising:

a schema receiver receiving a source data schema and a target data schema (e.g. Fig. 14; Fig. 17 - Note: sub-workflow receiving a XML message in order to process it again reads on receiving a target schema – see col. 15, lines 1-29), the source data being different from the target data ( Note: samples of schemas in Fig. 14, 17 depicts distinct forms of XML being readable from a computer media otherwise the transformation would be of no use);

a mapping processor mapping a data schema into an ontology model (e.g. Fig. 6-9; *xml, workflow, map* – col. 5, line 62 to col. 7, line 14); and

a transformation processor deriving a derived transformation for transforming first data conforming to the source data schema into second data conforming to the target data schema, based on respective source and target mappings generated by said mapping processor (Fig. 6-9;

Fig. 17-18 – Note: output response based on mapping against ontology metastore based on service and output requests – Fig. 14, 17 -- reads on source data schema in request conforming to target schema) for mapping said source data schema and said target data schema into a common ontology model;

wherein the transformation transforms data conforming to source schema directly to data conforming target schema ( Note: see col. 5, line 46 to col. 7, line 14 -- to include external intelligence and supporting structures enabling the transforming into a target schema reads on data schema from the request --i.e. source schema -- directly converted into output schema without any intermediate data schema format; Fig. 10, step 516, 518; Fig 6 and related text),

wherein source mapping and target mapping is based on a ontology model ( Fig. 4 in light of the basic atomic DBMS objects);

wherein the transformation is adapted to transform the first data into the second data without transforming the first data via ontological format (Note: providing DBMS mapping by Weblogic assimilation integrator – see col. 9 and Fig. 4-- to obtain atomic objects, thereby deriving object grouping into a model (or ontological abstraction) or LSO-based workflow, enhancing this LSO collection with object oriented attributes – see Fig. 9 – so to generate XML form to fulfill a request – see col. 7, lines 4-14; col. 14, bottom -- **reads on** without transforming via any ontology (or DBMS) format, i.e. using no intermediate format from the DBMS, from the atomic objects, no intermediate format from the extracted basic/atomic units generated by the provider Weblogic mapping process – see col. 9).

**As per claims 35-41**, these claims correspond to claims 2-8 respectively; hence are rejected with the corresponding rejections as set forth therein respectively.

As per claim 135, Wachtel discloses an article of manufacture including one or more computer-readable media that embody a program of instructions for transforming data from one schema to another, wherein the program of instructions, when executed by a processing system, causes the processing system to:

receive (source data schema and a target data schema...);  
map the source data schema (into an ontology model...);  
map the target data schema (into the ontology model...); and  
derive a derived transformation (for transforming data conforming to the source data schema into data conforming to the target relational database schema, using the ontology model);  
wherein the derived transformation ... adapted to transform ... target data schema, wherein the derived ... without transforming ... via ontology format; all these limitations having been addressed in claim 1 above.

As per claims 136, see Wachtel Fig. 1, col. 30-31: *computer readable media* - claims 39, 56, or 57.

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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8. Claims 9-19, 21-23, 25, 42-69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wachtel, USPN: 6,847,947, further in view of Lindberg et al., USPN: 6,732,109 (hereinafter Lindberg)

As per claims 9-10, Wachtel does not explicitly disclose that (re claim 9) wherein the source data schema is a source table schema describing source data tables, wherein the target data schema is a target table schema describing target data tables, and wherein the source table schema and the target table schema each describes at least one table having columns; and that (re claim 10) wherein the source table schema is a source relational database schema describing source relational database tables, wherein the target table schema is a target relational database schema describing target relational database tables. However, Wachtel discloses, from figures 3, 8, 13, that the automatic transformation is an SQL query in that Wachtel discloses a query system involving a database search (Fig. 3, 8, 13; *DBMS* – col. 9, lines 23-27) and a service to fulfill search in database based on XML specifications and then update database thereafter (*updates database tables* - col. 14, line 50 to col. 15, line 67) and database used in conjunction with modeling framework can be typified by Lindberg in which XML specifications can be mapped into properties relationships (col. 8, line 33 to col. 14, line 10). It would have been obvious for one skill in the art at the time the invention was made to implement the XML schema as parsed by Wachtel in the assimilation workflow instance so that both the target and source schemas correspond respectively to the database tables as shown by Lindberg, having relational DB constructs because schema is a fundamental means by which a relational database is designed/implemented and XML schema used to update records of data as suggested by Wachtel would be of better use if such XML schema is such as it corresponds the database tables upon

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which Wachtel's method is to fulfill client queries -- to fetch DB data and for updating-- it as purported above by the RDBM of Lindberg and the update approach by Wachtel.

**As per claim 11**, Wachtel discloses creating class and properties ( *class* – col. 11, lines 45 to col. 12, line 19) and identifying at least one class in the ontology model corresponding to at least one table; and identifying at least one property or composition of properties in the ontology model corresponding to at least one table column. The mapping of metadata/specification data with the database tables has been rendered obvious from claims 9-10 above.

**As per claim 12**, Wachtel based on the rationale of the rejection in claim 9-10; and the teaching from automatic deriving of classes and properties in claim 11, discloses deriving comprises: labeling properties of the ontology model with symbols; converting at least one column in the source relational database schema into at least one source symbol; converting at least one column in the target relational database schema into at least one target symbol; and expressing the at least one target symbol in terms of at least one source symbol.

**As per claim 13**, Wachtel discloses composition of properties ( e.g. Fig. 4, 5, 7, 17).

**As per claim 14**, as for the automatic deriving, Wachtel does not explicitly discloses wherein at least one dependency exists among properties in the ontology model, and wherein said deriving further comprises translating the at least one dependency among properties in the ontology model as at least one dependency between target relational database columns and source relational database columns, and wherein said expressing incorporates the at least one dependency between target relational database columns and source relational database columns. But in view well-known practices at the time the invention was made where relational databases are used with the construction in information model such as typified by Lindberg in which XML

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specifications can be mapped into properties relationships (col. 8, line 33 to col. 14, line 10), the concept of translating input schema to output schema based on such database-based dependency of data would have been inferred from the teachings by Wachtel as addressed in claims 9-10 using XML schema. Hence based on the teachings by Lindberg, it would have been obvious for one of ordinary skill in the art at the time the invention was made to implement the XML schema mapping of Wachtel so that it is added with the relational data dependency as by Lindberg so that output schema derived from input schema is founded on the dependency of properties as set forth in the relational database tables because this would facilitate the developing of results and fulfill the requirements owing to the hierarchy of properties or layering of requirements thus enabling time efficient mapping and model developing as purported by Lindberg (see Background of invention) which lead to efficient gathering of required data to produced the desired output result for the DB query by Wachtel.

As per claims 15-16, Wachtel does not expressly disclose wherein said expressing uses expressions involving arithmetic operations and that said expressing uses expressions involving character string operations. But the query operations to implement a search as by Lindberg or intended by Wachtel would have inherently encompassed operations using character string or arithmetic/logical operator to query a specific data record.

As per claim 17, Wachtel discloses applying the query to at least one source relational database table to populate at least one target relational database table (e.g. Fig. 3, 8, 13).

As per claims 18-19, Wachtel discloses single (Fig. 1) or multiple databases (Fig. 8).

As per claim 21, Wachtel does not explicitly discloses that the source document schema is a source DTD describing source XML documents, wherein the target document schema is a

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target DTD describing target XML documents, and wherein the source DTD and the target DTD each describes at least one XML element or XML attribute. Official notice is taken that at the time the invention was made a XML document and its attributes being accompanied with definition file such as a DTD document was a well-known concept. Hence in case Wachtel's XML schema definition does not already include such DTD schema, it would have been obvious for one skill in the art at the time the invention was made to provide such DTD schema along with the XML documents so that both source XML and target XML are defined according to the well known concept because without definition the attributes and properties of the XML would not be proper to be parsed by the XML parsing technologies as implemented by W3c standards.

**As per claims 22 and 23**, Wachtel discloses the transformation is using J2EE query/messaging service (e.g. col. 9, lines 8-26) with support of XML but does not expressly mention Xquery but this limitation would have been obvious because based on the J2EE and BEA framework, query against RDMS using Java would have been more beneficial if implemented with Xquery using the technology based on XML structures and its metastore as disclosed by Watchtel ( Fig. 1) and Wachtel discloses XSLT script (col. 7, lines 10-14)

**As per claim 25**, the Xquery limitation would have been obvious by virtue of the rationale set forth in claim 22.

**As per claims 42-44**, these claims correspond to claims 9-11 respectively; hence are rejected with the corresponding rejections as set forth therein respectively.

**As per claim 45**, Wachtel discloses presents a user interface to enable workflow assembling and application of integration rules using repository data ( Fig. 1; *DBMS* – col. 9, lines 23-27) but does not explicitly disclose wherein said property identifier presents a user with



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a choice of at least one property in the common ontology model that may correspond to a given table column even though a database entails representing persisted objects by table. The presentation of properties using a model to map such property for a query against a column in a database has been addressed above using Lindberg ( e.g. col. 7, line 47 to col 14, line 17). In view of the rationale as set forth in claim 9-10 and the user interaction as presented in a ontology model as endeavored by Wachtel, this limitation would have been obvious for the same reasons as set forth in claims 9-10, because of the purpose of ontology-based modeling is to allow user to customize requirements of a application based on some schema mappings and these are both disclosed in Wachtel and Lindberg.

**As per claims 46 and 47**, in view of rationale in claim 42 and the class and properties being identified as to correspond to given column or a target table ( Note: a key for a table is inherent in DB construct for facilitating query and normalization of data), as addressed in claim 11, these claims are rejected with the rationale as set forth therein.

**As per claim 48**, Wachtel discloses labeling properties with symbols ( see Fig.6; object 112 – Fig. 3); and combined with the teaching by Lindberg as set forth in the rationale addressing claims 42-43, has rendered obvious converting at least one column in the source relational database schema into at least one source symbol, and converting at least one column in the target relational database schema into at least one target symbol; and expressing the at least one target symbol in terms of at least one source symbol ( Note: the transformation as addressed in claim 34 combined with Lindberg would make it obvious the converting column/symbol limitation).

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**As per claims 49-52, and 54-55**, these claims correspond to claims 13-16, 18-19 respectively; hence are rejected with the corresponding rejections as set forth therein respectively.

**As per claim 53**, Lindberg discloses mapping applications to specific constructs of relational DB table (col. 7, line 47 to col 14, line 17) and Wachtel discloses mapping with eventual update of database (col. 14, line 50 to col. 15, line 67). It would have been obvious for one skill in the art to implement the mapping and transformation of Wachtel using database update such that applying the query processing by Lindberg so to retrieve one source relational database table; and applying the query to the at least one source relational database table to populate at least one target relational database table according to the suggested update technique by Wachtel because without update data on record would not be appropriate for subsequent queries and might generate data errors.

**As per claims 56-69**, these claims correspond to claims 20-33 respectively; hence are rejected with the corresponding rejections as set forth therein respectively.

### ***Response to Arguments***

9. Applicant's arguments filed 6/30/06 have been fully considered but they are not persuasive. Following are the Examiner's observations regarding the arguments.

#### **35 USC §102 Rejection:**

(A) Applicants have submitted that Wachtel does not anticipate the identically shown features as claimed, in terms of '... without transforming the first data via an ontological format' ( Appl. Rmrks, pg. 15 bottom) because Wachtel's LSO objects are grouped into a well-defined ontology, thus Wachtel's data are being transformed via an ontological format ( Appl. Rmrks, pg. 17, top).

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From the above assertion, it appears that Applicant is using the terminology 'ontology' as disclosed by Wachtel as a means to derive the argument for non-anticipation. In reply, it is noted that the claimed 'without transforming via an ontological format' is not defined clearly in the Invention disclosure to negate the anticipatory type of teaching by Wachtel, anticipatory because via assembling of objects in a GUI framework, Wachtel's re-manipulating of OO class in a viewer reads on (anticipatory equivalence) the transformation from first data to second data as construed from claim 1. That is, Wachtel teaches using a framework gathering the requirements from database into atomic raw entities to generate a model-like view of object-oriented objects based on such basic atomic elements; such that, by enabling the user to develop the OO objects according to the source request requirement, the final XML output file can be generated from the API calls underlying the ontological representation and interaction among the classes as they are analyzed within the visual framework, i.e. the classes construct or format comprising the model not directly being part of the transformation but merely used to trigger enhancements or API calls to collect data needed for the final conversion to response message (see Wachtel: Fig. 4-9, 13-17). There is no teaching in the disclosure as to how implementing a *transforming* is done without passing through an ontological format is actually and clearly described. As observed in the Claim Objection and the 112, second paragraph rejection, this 'without transforming ... format' appears indefinite or unclear, or even improper in light of the Specifications. By disclosing that ontological model of the classes is generated based on elements extracted from the RDBs and using the interactions of the class to yield additional attributes or methods, or to effect query APIs (see Specifications pg. 14-16), to further the tasks or data represented via those classes, the invention as specified seems clearly teaching a transformation in the course of

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which a ontological view of data is present if not necessary. If 'without transforming via ontological format' (\*\*) only entails not using the very class construct as they are displayed in the GUI framework but merely employing their semantic implication – analyzing a workflow -- and via submitting API, generating messaging or attributes, then this limitation (\*\*) can be equated to the teaching by Wachtel according to which, atomic elements are gathered leading to a GUI modeling by the user to set up OO class view, and utilizing such modeling (ontological approach) to further the class into fulfilling the task as set forth from the source request, i.e. effecting query calls, converting into messages or XML form to fulfill the needed request as this has been parsed from the input XML (refer to rejection). The claim is thereby anticipated and Wachtel does provide the same steps as perceived from the claim in light of the very approach as seen in the Specifications. The specifications may be mentioning about 'without transforming via a format' but in view of the elaborated description, this transformation with non-use of ontological format is not reasonably secure. At best, it appears from the Specifications that this amounts to using the atomic elements from a database and construct a view of OO class according to semantic analysis of which, user's enhancement to those model instance of (ontological-viewed) classes can be furthered to meet the demands of the original request, leading to the response, hence transforming in the course of which a form of ontological view is present. The claim appears unclear, and if in the unlikely scenario that the Specifications are to be read into the claim, the claims still cannot overcome the equivalent teachings by Wachtel. As broadly interpreted, the limitation (\*\*) has been viewed as though no physical constructs from the database, or the model are directly applied into the transformation; and the claim as claimed has been anticipated as set forth. Applicant's argument is therefore perceived as what appears to

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be an attempt at exploiting a terminology usage (ontological format) as opposed to correctly evidencing the distinguishing and novel teaching of what is claimed versus what the prior art really teaches. Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

**USC §103(a) rejection:**

(B) Applicants have submitted that for claim 9, Wachtel fails to teach and suggest the 'transforming ...via' limitation of claim 1 (Appl. Rmrks, pg. 21, bottom, pg. 22, top) whereas Lindberg fails to address any ontology at all. The anticipatory teaching by Wachtel still stands and the rejection has effected a combination by which Lindberg teaching is to provide other features than those that have been anticipated by Wachtel. The rejection has set rationale as to how Lindberg's feature can be added to Wachtel based on some need to achieve a common goal, in view of some benefits at the time the invention was made, according to one skill in the art who is presented with the explicit or implicit teachings from the references. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

(C) Applicants have submitted that *prima facie* has not been established when Lindberg's method to make database easily accessible and Wachtel's scalability and reusability ( Appl. Rmrks, pg. 20) do not make the combination correct in view of diverging problems endeavored by the references. It is noted that any improvement to a database implementation is to alleviate

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resources, thus facilitate reusability and foster improved applicability or accessibility of DB services to support applications, i.e. reusability and accessibility read on one another. Besides, the rationale of the 103(a) rejection as set forth in the rejection is to address a fundamental structuring of database and why its construction in a RDBs would be obviously indispensable; and accordingly, Applicants have to prove exactly how by applying such database structural implementation (in row or tables) by Lindberg to Wachtel's persistence of objects in a Weblogic integration system would be inappropriate or would lead to adverse effects. The Applicants' argument seems content with asserting that prima facie is not achieved but at the same time fails to point to precisely how this prima facie deficiency is all about, based on the very cited portions of the references being proffered in the obviousness rationale.

The rejection of the claims will stand as set forth in the Office Action.

### ***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan A Vu whose telephone number is (272) 272-3735. The examiner can normally be reached on 8AM-4:30PM/Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (571)272-3719.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273-3735 ( for non-official correspondence - please consult Examiner before using) or 571-273-8300 ( for official correspondence) or redirected to customer service at 571-272-3609.

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Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Tuan A Vu', with a long horizontal flourish extending to the right.

Tuan A Vu  
Patent Examiner,  
Art Unit 2193  
August 31, 2006